The Cost-Effective and Component Based Intelligent Tutoring Shell - the GET-BITS Model

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Many important issues in design and implementation of ITSs (Intelligent Tutoring Systems) some functionality focuses on the way inter-object connections are represented, manipulated, and stored in the computer. However, the advancement of AI methods and techniques makes understanding of ITSs more difficult, so that the teachers are less and less prepared to accept these systems. As a result, the gap between the researchers in the field of ITSs and the educational community is constantly widening. While ITSs, also called knowledge based tutors, are becoming more common and proving to be increasingly effective, each one must still be built from scratch at a significant cost. Also the present ITSs need quite big development environments, huge computing resources and, in consequence, are expensive and hardly portable to personal computers. We have been searching for efficient ways to do these knowledge-engineering tasks. This paper describes our efforts toward developing uniform data and control structures that can be used by a wide circle of authors, e.g., domain experts, teachers, curriculum developers, etc., who are involved in the building of ITSs.